means for vertically connecting said pair of bladders to the front panel of said backpack to provide cushioned back support on opposite sides of a user's spinal column along at least a thoracic region thereof when said backpack is carried on the user's back;

pump means for inflating said pair of bladders; and

valve means for deflating said pair of bladders.--

REMARKS

The Office Action of October 7, 2002, has been carefully considered. Applicant has amended all claims to point out a feature of applicant's invention not suggested by the references of record. Before turning to the details of the claims, it is believed that a short discussion of the nature and purpose of applicant's backpack support would be in order. As pointed out in applicant's specification, applicant's back support apparatus is carefully positioned along the right and left sides of the wearer's spine. More specifically, the support runs along the entire thoracic region of the wearer. In order to do so, the bladders need to extend above the point of attachment of the shoulder straps to the front panel of the backpack. This provides important support at the uppermost region of the wearer's spine.

The claims have been amended to call for the bladders having an upper terminus which extends at least as high as the attachment point of the right and left shoulder straps. The examiner has rejected the claims as obvious over the German patent to Jaeger combined with the patent to Bertholon. A study of the Jaeger patent resulting from viewing the fourteen figures, twelve of the figures show a bladder or other inflated object directly over

the user's spine. This is very much in contrast to applicant's teaching of the importance of a space between the two bladders. Only Figures 4 and 5 of Jaeger show spaced bladders and these bladders have an upper end as shown by the left bladder in Figure 4 significantly below the attachment of the shoulder straps to the front panel of the backpack.

The examiner has rejected Claims 14 and 15 over Figure 3 of Jaeger. It is very significant, however, to note that the only figures of Jaeger which provide any basis for rejection under Section 103 do not have any bridge conduit. Note Figures 4 and 5 show two bladders which are separate from one another. Applicant's invention as set forth in Claims 14 and 15 call for two vertical bladders separated by a spaced gap which are interconnected with at least one bridge conduit.

This interconnection with the bridge conduit provides a very important additional benefit of applicant's invention. It is known that people's bodies are not symmetrical. Right handed people tend to have increased musculature along their right side and will tend to lift objects with their right arm and shoulder, etc. As the result, their back and the muscles connecting the spine are not symmetrical between the two sides. Thus, when one has two bladders, one on each side of the spine, pneumatically connected by a bridge conduit, these bladders are able to adjust to the different shapes of the two sides along the user's spine. Thus, when one combines the central gap with a shape compensating bridge conduit, one arrives at an especially beneficial design. Such design is capable of significant reduction in back injuries as the result of backpacks without this feature.

The remaining cited references have been reviewed but none of them suggest applicant's important placement of bladders and it is believed that all claims as amended are allowable. Such action is respectfully requested.

Respectfully submitted,

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VERSION WITH MARKINGS TO SHOW CHANGES MADE

In the Claims:

Claim 1 has been amended as follows:

1.(Amended) A back support apparatus for use with a backpack, said backpack having a front panel comprising a back-facing surface supporting a right and a left shoulder strap, extending downwardly from a right and a left upper attachment point, said back support comprising:

a pair of elongated inflatable bladders spaced generally parallel to each other and separated by a gap space and adapted to be vertically connected to a front panel of said backpack to provide cushioned back support on opposite sides of a user's spinal column along at least a thoracic region thereof when said backpack is carried on the user's back, said bladders each having an upper terminus extending upwardly at least as high as right and left upper attachment points and the gap space being aligned over the user's spinal column;

pump means for inflating said pair of bladders; and

valve means for deflating said pair of bladders.

Claim 9 has been amended as follows:

9.(Amended) A backpack system for reinforceably supporting a user's back, said backpack having a front panel comprising a back-facing surface

supporting a right and a left shoulder strap, extending downwardly from a right and a left upper attachment point, said backpack system comprising:

a backpack having a front panel;

a pair of elongated inflatable bladders spaced generally parallel to each other and separated by a gap space, said bladders each having an upper terminus extending upwardly at least as high as said right and left upper attachment point and the gap space being aligned over the user's spinal column;

means for vertically connecting said pair of bladders to the front panel of said backpack to provide cushioned back support on opposite sides of a user's spinal column along at least a thoracic region thereof when said backpack is carried on the user's back;

pump means for inflating said pair of bladders; and

valve means for deflating said pair of bladders.